MYRMECIA

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THE COVER

The cover features an illustration of a species of *Myrmecia* (HYM: Formicidae; Myrmeciinae). *Myrmecia gulosa* was selected as the emblem of the Australian Entomological Society as one of the earliest species collected and described from Australia having been collected by Joseph Banks at Botany Bay in 1770. This illustration of the winged adult was prepared by **Catherine Symington** of I.H.D., Knoxfield, Victoria.

MYRMECIA

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ADVERTISING RATES FOR MYRMECIA

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These rates apply to camera-ready copy supplied by the advertiser. Where this is not supplied, an additional charge may be made for the layout.

In addition, loose inserts and pamphlets supplied by the advertiser will be included in a mailout for $100 per item. The items should be of a size which will not project beyond the pages of *Myrmecia*.

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be reproduced without permission of the author of the material.

COPY DEADLINE FOR NEXT ISSUE

Material for publication in the Nov. 1995 issue of *Myrmecia* should be in the hands of the Editor at the address below by **Friday 20 October 1995.** Submission in ASCII or uuencoded format to the editor's email address (fletchm@agric.nsw.gov.au) is preferred but submission on IBM-compatible floppy disk in a major word processing format, or by fax, letter or carrier pigeon to the address below is acceptable.

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EXECUTIVE REPORT

MEETINGS

The Core Executive met on 18 May, 14 June and 20 July 1995.

NEW MEMBERS

We welcome the following new members to 1995 membership:

Elected 18 May 1995

Mr KF BRADLEY, 86 Clairville Rd, Campbelltown SA 5074. Ken is a postgraduate student in the Dept of Crop Protection, University of Adelaide.

Ms RJ BUTCHER, BSc (Hons), Water Ecoscience, 68 Ricketts Rd, Mt Waverley Vic 3149. Rhonda is a Senior Consultant with interests in invertebrate conservation, monitoring aquatic ecosystems, and freshwater invertebrate ecology and taxonomy.

Mr JA COOK, 50 Yallambee Rd, Jindalee Qld 4074

Dr EA DAVISON, PhD, Botany Department, University of New England, Armidale NSW 2350. Elizabeth has extensive experience in the community and population ecology of ants and at present is a Junior Research Fellow engaged in studies of pasture ant communities in the Northern Tablelands.

Dr CE MEATHREL, PhD, Department of Environmental Management and Ecology, La Trobe University, Albury/Wodonga Campus, Wodonga Vic 3690. Catherine is a Lecturer at the above Department.

Elected 14 June 1995

Mr S SUNDARALINGAM, MSc, 8/21 Burlington Rd, Homebush, NSW 2140. Selliah is interested

in the collection and preservation of insects.

Dr LA WHIFFLER, PhD, 20 Derbi Rd, Alexander Heights WA 6064. Lynne is an Associate Lecturer at Curtin University with interests in the biology of honeybees and the use of invertebrates in environmental studies.

Elected 20 July 1995

Miss AB BAKER, BSc(Hons), PO Box 59, Narrabri NSW 2390. Amelia is a PhD student at the University of New England and CSIRO Plant Industry, Aust Cotton Res Inst, Narrabri and is studying the physiological and morphological responses of cotton to damage by spider mites.

Dr JS BHATHAL, WA Dept of Agriculture, PO Box 110, Geraldton WA 6530. Jatinderpal is a Research Officer and has interests in insect population dynamics, host-plant resistance to insects, biological control and applied insect ecology.

Miss BE CAMPBELL, BSc(Hons), Division of Botany & Zoology, Australian National University, Canberra ACT 0200. Bronwyn is a PhD student with interests in population genetics and insect pest management. (She was nominated at Executive Meeting 322).

Ms PJ CARTER, CSIRO Entomology, PMB 2, Glen Osmond SA 5064. Penny is a Technical Officer involved in studies of sarcophagid flies as possible biological agents for control of white and conical snails, and the ecology and economic importance of earthworms in southern Australian pastures and crops.

Dr AE DOLLIN, PhD, PO Box 74, North Richmond NSW 2754. Anne is a private researcher of the taxonomy and nesting behaviour of Australian stingless bees, genera *Trigona* and *Austroplebeia*. (Anne was the winner of the 1980/81 AES Student Research Award, see *Myrmecia* **30**(4): 38-40, 1994)

Mr BR HENNECKE, BAgrSc, DPI & F, Weeds Branch, PO Box 79, Berrimah NT 0828. Berthold is a Technical Officer with the Weeds Branch of the Northern Territory DPI & F.

Ms LA HILLS, 1/6 Brock Crt, Anula NT 0812. Leslee is a Technical Officer with the Weeds Branch of the Northern Territory DPI & F.

Dr P KOLESIK, PhD, 2/47 Victoria St, Forestville SA 5035. Peter is a Research Officer with the Dept of Horticulture, Viticulture and Oenology, Waite Campus, University of Adelaide. He has an interest in gall midges.

Mr M KHAN, MSc, Dept of Agronomy & Soil Science, University of New England, Armidale NSW 2351. Moazzem is a PhD Student engaged in studies of the biology and ecology of the mirid pest of cotton, *Creontiades dilutus*.

Mr PJ NEVILLE, BSc(Hons), School of Zoology, La Trobe University, Bundoora Vic 3083. Peter is a PhD student at La Trobe University.

Miss RA O'CONNOR, BAgSc, PO Box 510, Jabiru NT 0886. Ruth is a Professional Officer with ERISS and is using freshwater invertebrates for environmental monitoring. (She was nominated at Executive Meeting 330).

Mr L SALEHI, Dept of Crop Protection, Waite Campus, University of Adelaide, Glen Osmond SA 5064. Latif is a PhD student in the Dept of Crop Protection.

Mr DC WATERSON, BScAgr, 139 Kent St, Epping NSW 2121. Darren is a Technical Officer (Science), with the Biology Section, NSW State Forests, and has interests in defoliating insects, termites, mosquitoes and quarantine pests.

Change of Address, Status or Title

(May Meeting)

Mr P GREEN, Dept. of Primary Industries, Animal Research Institute, Locked Bag 4, Moorooka Qld 4105 (ex Qld)

Dr PA and Mrs JA HORNE, Institute for Horticultural Development, PMB 15, SE Mail Centre Vic 3176 (ex Vic)

Ms R HUWER, Friedrichstr. 56a, 54516 Wittlich GERMANY (ex Qld)

Dr C LOKKERS, PO Box 79, Rollingstone Qld 4816 (ex Qld)

Ms GM MAYO, Dept of Crop Protection, Waite Campus, University of Adelaide, Glen Osmond SA 5064 (ex SA)

Dr DK McALPINE (status change from Full to Retired Member)

Ms SJ MCDOUGALL (from Miss)

Ms TV RANGSI (from Miss)

(June Meeting)

Dr D HOCHULI, School of Biological Sciences, Zoology Building A08, University of Sydney, NSW 2006 (ex Vic, from Mr to Dr, from Student to Full Member)

Mr CL JOHNSTON, PO Box 8, Ashbourne SA 5167 (ex SA)

Mr NR RENFREY, PO Box 888 Irymple Vic 3498 (ex Vic)

(July Meeting)
Mr AJ HUNT, CRC for Temperate Hardwood Forestry, GPO Box 252C, Hobart, Tas (return to financial member)
Mr A KENNETT, Agristudies & Associates, PO Box 5630, Maroochydore Sth., Qld 4558 (ex Qld)
Mr TG QUINLAN, c/o Yallingup PO, Yallingup, WA 6282 (ex WA)
Mr G P SHELDON, 13 Fiona St, Point Clare, NSW 2250 (ex Vic)
Dr DJ THACKRAY, c/o Ms A. Wylie, 1/101 Hastings St, Scarborough WA 6019 (ex WA)
Mr L WILKIE, 1 Jermyn St, Hyde Park, Townsville, Qld 4812 (ex Qld, to Full member)
Dr P. WILLIAMS, Institute for Horticultural Development, Private Bag 15, South Eastern Mail Centre, Vic 3176 (ex Vic)
Mr AGL WILSON, 20 Warrigal St, Willow Vale, via Mittagong, NSW 2575 (ex NSW)

Address unknown
Mr KP BODNARUK and Ms J SEMPLE (formerly of 20 Vista St Bardon Qld 4065)
Mr NM HUDSON
Mrs ES KENTJONOWATI (formerly of Zoology Dept, La Trobe University, Bundoora Vic)
Mr HG PERONA
DM POLLOCK
Dr J WOODWARD

FROM MINUTES OF THE CORE EXECUTIVE

The Honourable **Bill Hayden**, AC, Governor-General of the Commonwealth of Australia, has kindly accepted an invitation to become Patron of The Australian Entomological Society.

The new 'Directory of South-West Pacific Entomology' edited by **John Jennings** has been printed, and copies have been sent to the Business Manager for sale to members. The Vice-President congratulated and thanked the editor and acknowledged **Tom White**'s contribution to the publication. Copies will be available for sale ($10 each) at the Tamworth Conference.

A draft of the AES Operational Manual is nearing completion and will be available for discussion during the Tamworth AGM.

Papers for postal voting for the name of the AES Journal are in this issue of the News Bulletin. **John Jennings** has been appointed Returning Officer for the ballot.

The use of a private company for the handling of address labels and distribution of the AES Journal is being investigated by **Peter Allsopp** and **John Donaldson**.

Discussions are continuing with the New Zealand Entomological Society for a joint conference at Lincoln College, Christchurch, in August 1996. It has been proposed that Australian convenors and/or sub-committee be appointed at the Tamworth conference to collaborate with the NZ convenors in organising scientific aspects of the Conference.

The Core Executive considers that the appointment of casual clerical assistance is required to assist the AES Secretary and Treasurer in carrying out their responsibilities. The likely financial implications to the Society are being investigated.

The Auditors' report on the Society's financial statement for 1994 has been prepared: a full report will be presented by the Treasurer at the AGM.

It is noted with regret that, due to health reasons, **Paul Madge**, the AES Honorary Secretary, has tendered his resignation to take effect at the AGM in Tamworth. **Gary Taylor**, Dept of Crop Protection, Waite Institute, has been nominated to fill the vacancy.

Gary TAYLOR
Provisional Hon. Secretary

SOCIETY NOTICE

An opportunity for a member to assist the Society to strengthen links with entomological societies in other countries

The Society is seeking a coordinator to develop institutional relationships in the Pacific and South-east Asian regions. This is part of a program initiated by the Executive to promote the Society in the region and also to encourage entomology in these countries by fostering the development of national societies. Another initiative in this program is the soon to be published "Directory of South-West Pacific Entomology".

If you are interested in developing relations with overseas entomologists and encouraging the development of societies of professional entomologists in overseas countries, the Executive is interested to hear from you. One of the main

tasks of the coordinator will be to develop an application, together with the Executive, to the Australian International Development Assistance Bureau (AIDAB) for assistance under their Professional Associations International Development Scheme (PAIDS). The position may involve overseas travel for the coordinator.

Please contact Peter Allen

Phone: 08-303 9530

Fax: 08-303 9555

E-mail: allen.peter@pi.sa.gov.au

by 31 July 1995 for further details.

Paul MADGE
Hon. Secretary

The Keith and Edith Carnaby Collection

The Keith and Edith Carnaby Collection has been transfered to the Australian National Insect Collection in Canberra following the death of Keith Carnaby at his home at Wilga, W.A. on the 26th April 1994. While the present collection began shortly after Keith and Edith were married in 1968, there was a much earlier interest in entomology.

Keith Neville Carnaby was born in 1910 on the Nedlands Park Estate on the Swan River. By the age of five he was already interested in collecting insects and by the age of twelve had a collection of jewel beetles (Buprestidae). At thirteen he left school and joined the family boat business until he was seventeen when he went to work on a farm the family had purchased at Lake Grace. He remained there until it had to be abandoned in the depression.

A spell of kangaroo shooting saw him stranded at Port Headland until he joined a droving team that took him through central Western Australia to Meekatharra, from whence he returned home. He rejoined the family business and with his brother continued to run the business until his brother left and Keith had to complete the last boat by himself in 1938.

He set up a small case-making sawmill near Chidlow but in 1940 joined the AIF and served in both the ninth and sixth Divisions at El Alamein and in Borneo. He married Florence Jean Wylie on the 7th June 1944 and was discharged from the army in 1946. After the war they settled at Chidlow where they spent the next 22 years. During this time the hard work of milling, running poultry and

Keith and Edith Carnaby *at their home in Wilga, WA*
[photo: the Carnaby family, reproduced with permission from ANIC News]

later cutting timber for charcoal, together with his family commitments, left him no time for jewel beetles.

In 1967 Jean Carnaby died of cancer, and in 1968 Keith married Edith Guy (née Dixon) who had been a long time correspondent with, and good friend of Jean. Edith was born in 1919 near Kellerberrin. Edith and her first husband bought the property "Wangaretta" at Wilga, near Collie, on which she and Keith settled. Edith was also very interested in entomology so it was not surprising, now that Keith had retired, that she reawakened his early interest in jewel beetles. Their collecting began in earnest in 1969.

Nearly every year since, they have completed a circuit of Western Australia, going north as far as Broome, inland to Meekatharra, then taking in Hyden, Southern Cross, Coolgardie, Norseman, Esperance, Cape Arid, Israelite Bay, Ravensthorpe, Jerremungup, the Stirling Ranges and Albany. Their original mode of transport was a Land Rover towing a caravan that Keith built specially for the purpose. The Carnabys embarked on their first round-Australia collecting trip in 1971. The same year they made their first contact with the Australian National Insect Collection in Canberra. This started a continuing relationship with many members of the ANIC staff.

With their collection growing rapidly, they built a special museum building on their property in 1972. In 1976 they again travelled around Australia aided by a small annual grant from CSIRO to help meet their expenses in obtaining specimens for the ANIC. They also collected a wide range of different insects for many other entomologists, both in Australia and overseas. Henry Howden from Canada introduced them to another group of beetles in which Edith especially became interested, the geotrupids. The Carnabys soon became expert at locating and collecting these beetles and joined the Howdens on more than one of their field trips to Australia. In recognition of the Carnabys' efforts on behalf of various entomologists, they have had at least seven insects named after them.

Apart from Edith's involvement with the collection, she gained a reputation for herself in the local community, winning prizes for her photography, being awarded the Red Cross Service Medal in 1973 and becoming renowned for her culinary prowess.

With the growing number of people wanting to see their collection, the Carnabys established a permanent display of insects at the Tourist Centre at Boyup Brook which was opened in 1979 by Graham McKinnon, MLC. 1982 saw their collecting trips enter a more comfortable phase with the purchase of a motor caravan. This vehicle took them collecting around Australia again in both 1984 and 1985. Their local collecting sorties also continued to the extent that not only had they traversed most roads in Australia, but they had covered all roads in Western Australia.

Their wish to publish a book on jewel beetles finally became a reality in 1986 with the "Jewel Beetles of Western Australia", a book of over sixty pages of coloured plates which they produced themselves. This book is still available from the ANIC bookshop in Canberra.

While most of the Carnabys' collection is the result of their personal exertions, many specimens were also obtained by exchange with other entomologists from many countries. In 1988 they donated their North American jewel beetles to the ANIC and later, in 1992, the Carnabys assigned, by Deed, their magnificent collection to the ANIC on condition they retained it until they felt they could no longer look after it. The collection consisted of over 13,000 excellently mounted beetles, many thousands more labelled but unmounted specimens in papers. There were also many pinned butterflies and moths, plus many hundreds in papers.

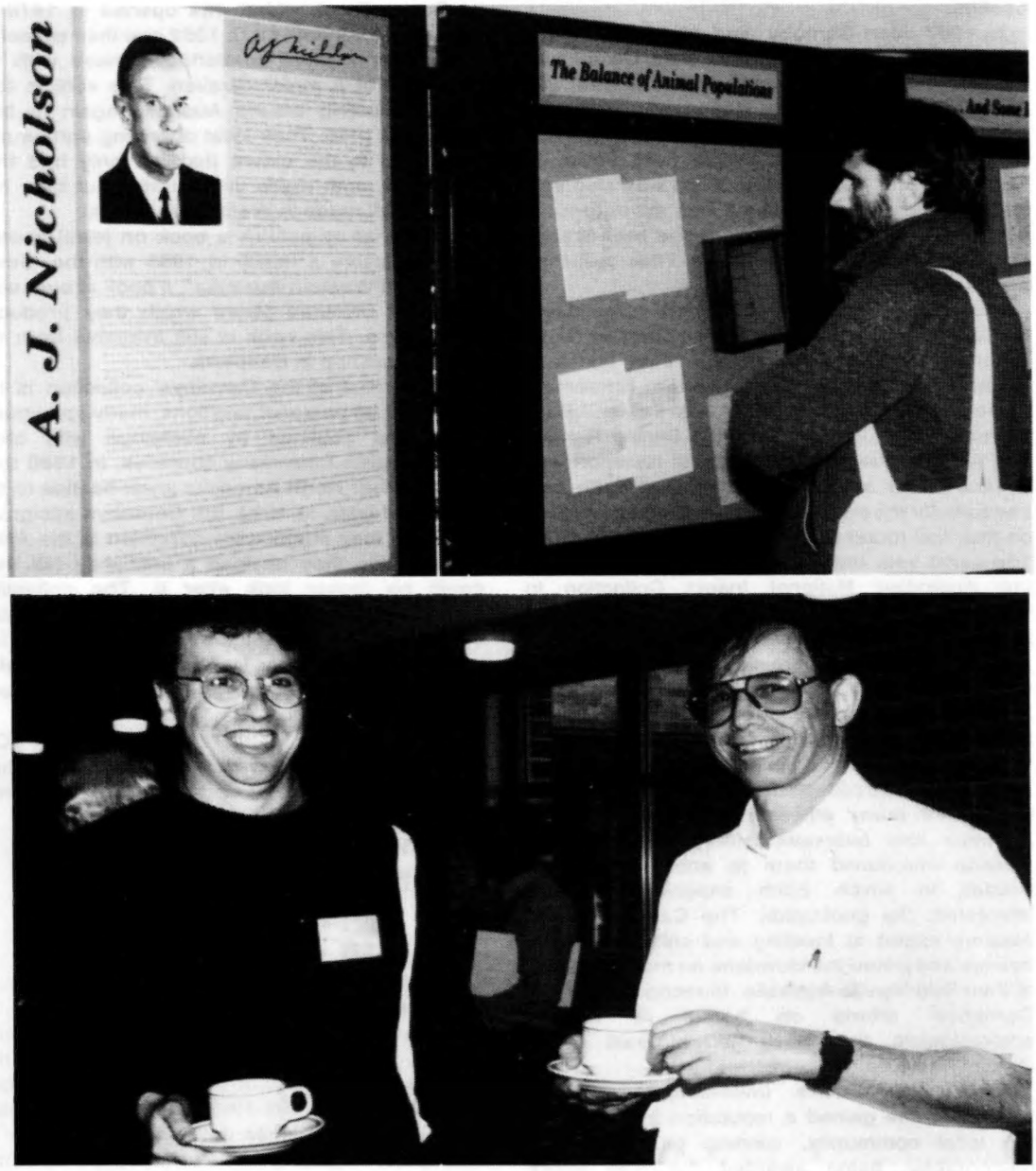
Murray S. UPTON
Australian National Insect Collection
Canberra.

The Nicholson Centenary Meeting: Frontiers of Population Ecology 18 - 22 April 1995

In April, the Australian Entomological Society, in conjunction with the Australian Academy of Science, the Ecological Society of Australia and CSIRO, sponsored a meeting to celebrate the centenary of the birth of the population ecologist **A.J. Nicholson** (1895-1969). Over 200 ecologists from a dozen countries gathered in Canberra to take part in the event which was a fitting celebration of a scientist who did so much for the development of entomology and population ecology.

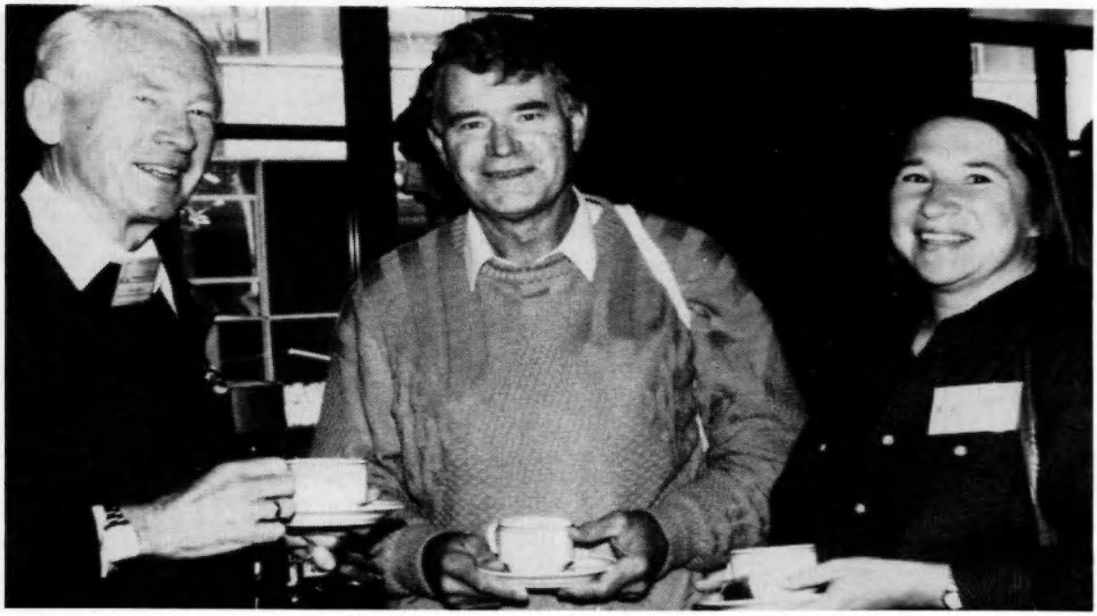
John Nicholson is recognised as one of the

A.J. Nicholson Centenary Meeting



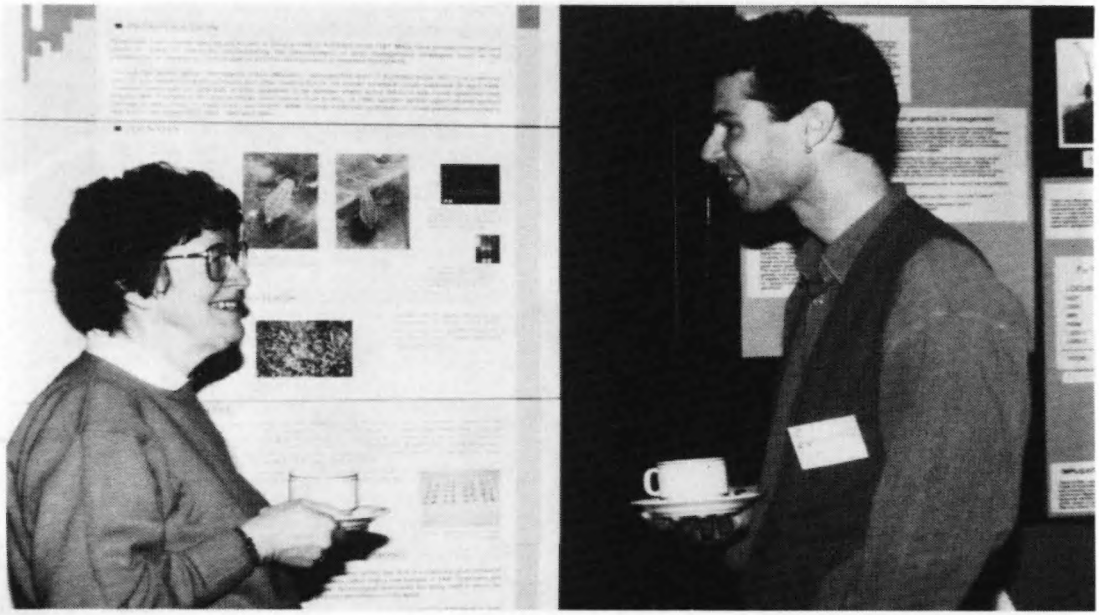
TOP: ***A.J. Nicholson*** *watches* ***Grant Farrell***
BOTTOM: ***Paul Wellings*** *with* ***Garth Nicholson*** *(son of A.J.)*
[photos: John Green, CSIRO]

A.J. Nicholson Centenary Meeting



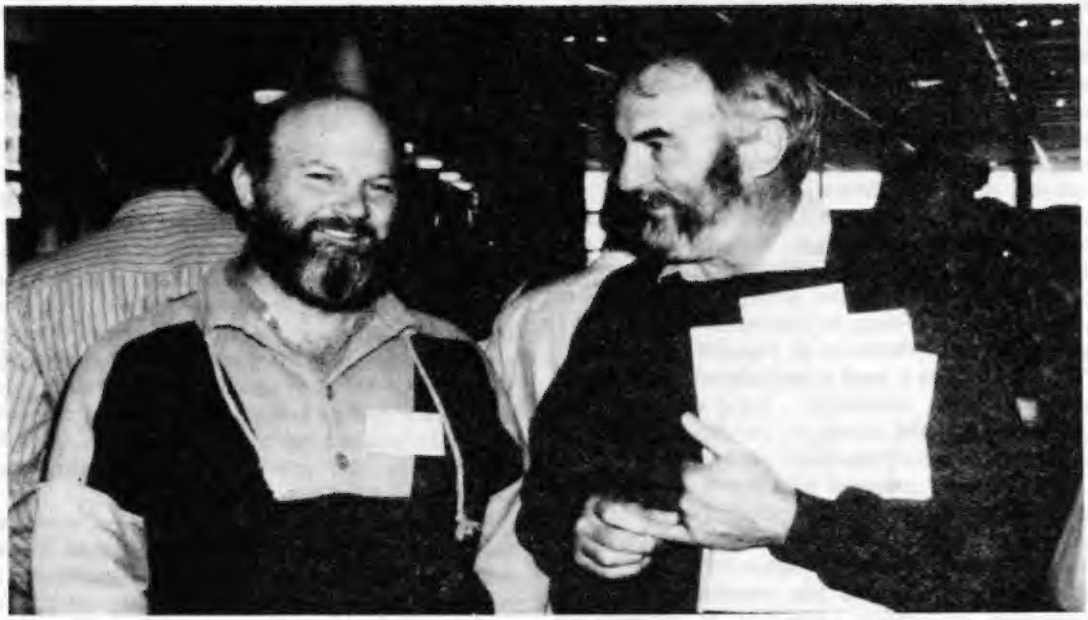
TOP: ***Steve Goldson, Louise Vet*** *(Wageningen, The Netherlands) and* ***Peter Gregg***
BOTTOM: ***Tom White, Alan Newsome*** *and* ***Sharon Kingsland*** *(John Hopkins, USA)*
[photos: John Green, CSIRO]

A.J. Nicholson Centenary Meeting



TOP: ***Wendy Milne*** *discusses the posters with* ***Paul Sunnucks***
BOTTOM: ***Myron Zalucki*** *chats with* ***Joanne Daly*** *with* ***Tom White*** *in background*
[photos: John Green, CSIRO]

A.J. Nicholson Centenary Meeting



TOP: ***Mike Keller, Gary Fitt*** *and* ***Frances Fitzgibbons***
BOTTOM: ***Geoff Baker*** *and* ***Max Whitten*** *demonstrate the cloning power of molecular engineering.* [photos: John Green, CSIRO]

leading ecologists of this century. He remains familiar to ecologists throughout the world because of his research on the factors causing population limitation, the concept of regulation through density dependence and the debate about his theories on populations which dominated ecology during the middle third of this century. Nicholson continues to shape and inform much of our research. His work has been consistently cited in the ecological literature over the past twenty five years and lies behind a wide variety of concepts. A.J. Nicholson is remembered for three classic studies (Nicholson, 1933, 1954; Nicholson and Bailey, 1935). For many researchers these studies underpin the debate on population regulation, competition and natural enemy-prey interactions.

The meeting drew together a broad set of presentations across a range of taxa in order to have a comprehensive discussion of the current frontiers of population ecology and touched on major themes such as theoretical and experimental population ecology, the conservation of endangered species, the management of pests and the sustainable management of resources. Of special interest to entomologists were the invited papers by **Sharon Kingsland** (Evolutionary theory and the foundations of population ecology), **Hugh Possingham** (Decision theory and biodiversity management), **Louise Vet** (Parasitoid foraging: the importance of variation in individual behaviour for population dynamics), **Rod Mahon** (Frequency dependent competitiveness and the sterile insect release method), **Steve Wratten** (Ecology of predator/prey and parasitoid/host systems), **Joanne Daly** (Ecological constraints to the deployment of arthropod resistant crop plants), **Craig Moritz** (Molecular ecology: contributions from molecular biology to population ecology) and **Bill Murdoch** (Frontiers of population ecology). There were also a host of contributed papers and posters that illustrated the impact that entomologists are having in the development of new directions for population ecology.

The meeting program was tightly packed into three and a half days which included two excellent mixers and a conference dinner at which the MC, **Hugh Tyndale-Biscoe** (Director, CRC Vertebrate Biocontrol) announced the establishment of a fellowship for young ecologists in memory of **Graeme Caughley** and **Robin Williams** (ABC Radio) delivered the after dinner speech. The Nicholson meeting was one of the major international conferences for ecologists in 1995 and owed much to the organising committee (**Joanne Daly, Paul De Barro, Rob Floyd, Louise Lawrence, Andy Sheppard** and **Paul Wellings**) for their planning and attention to detail.

Paul WELLINGS
CSIRO Canberra
for the Organising Committee

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

CSIRO Division of Entomology, Canberra

The major event in the Division of Entomology over the last quarter was the completion by **Max Whitten** of his term as Chief. During his 14 years in the position, Max steered the Division through a period characterised by re-evaluation of the role of CSIRO in Australian science, and through the political,structural and financial adjustments which inevitably accompanied such a process. On behalf of the staff, thank you Max, and we wish you further success in all your future work.

On the other side of the succession, **Paul Wellings** (see photo opposite) was named as the new Chief of the Division; once again on behalf of the staff- Congratulations Paul! Paul is of course well known to entomologists in Australia, having been on staff with CSIRO since 1981, located at the Division of Entomology at Black Mountain since 1986, and having been Assistant Chief of the Division for the last year. Prior to life in the Organisation, Paul studied at King's College, University of London (BSc Hons), Durham University (MSc), and the University of East Anglia (PhD and NERC Research Fellow). His own research interests relate to invertebrate ecology, and over the last 20 years have been largely focussed on study of aphids, both in their role as agricultural pests, and as model insect systems. Paul commenced his term in mid-July, after his return from the International Plant Protection Congress held in The Netherlands.

Meantime, the travails and travels of scientists have been continuing unabated... **Jim Cullen** presented an Invited Address on biocontrol of weeds at the meeting in The Netherlands, then went on to hold the fort as Acting Lab Director at the Montpellier field station until **Mark Lonsdale** arrived at the end of July. Jim has also been busy with organisation of the CRC for Weed

Management Systems which began life on 1 July 1995. CSIRO Entomology is one of three core participants in the Centre, the others being the University of Adelaide and NSW Agriculture.

And on the subject of weeds, **Peter Hodge** and **Andy Sheppard** have now received permission from ANCA and AQIS to release the seed-feeding bruchid *Bruchidius villosus* as a third biological control agent against Scotch broom - the release will take place in the coming Spring.

***Paul Wellings**, new Chief of the CSIRO's Division of Entomology* [photo: John Green, CSIRO]

Gary Fitt, Rob Floyd and **Paul De Barro** also attended the International Plant Protection Congress in The Netherlands, Gary after a visit to Bozeman, Montana, Rob following a visit to China to liaise with ACIAR project staff in Xiamen and Hangzou, and Paul after visiting the UK. **Ray Akhurst** has also been in China, starting an ACIAR-sponsored project on resistance to Bt in the diamondback moth, *Plutella xylostella*.

Alison Bawden, Karyn Johnson and **David Dall** attended the American Society for Virology Meeting in Austin, Texas; Alison and Karyn, together with **Chunyan Liao**, then attended the Society for Invertebrate Pathology meeting in Ithaca, NY, where Alison won First Prize in the Student Paper competition for her presentation "Specificity of *Helicoverpa armigera* stunt virus (HaSV) in larval infection", and Karyn won Third Prize with "*Drosophila melanogaster* and the *Drosophila* C virus: a model system for studying insect-virus interactions at the molecular level?". Congratulations Alison and Karyn!

David DALL
Regional Councillor

NEW SOUTH WALES

Department of Medical Entomology University of Sydney at Westmead Hospital

In the last *Myrmecia*, we reported on a major outbreak of Barmah Forest disease along the south coast of New South Wales. Human infection with this virus results in a similar symptomatology to infection with Ross River virus but tends to be less severe; with rashes, fevers and joint pain. This outbreak, being the largest ever recorded, has kept **Stephen Doggett, John Clancy** and **John Haniotus** very busy isolating viruses and analysing results. For the 1994/5 mosquito season there was over 100 isolations of Barmah Forest virus, with Ross River, Edge Hill and Stratford viruses also being isolated. The salt marsh mosquito, *Aedes vigilax*, appeared to be the major vector of the virus to humans.

Karen Willems and **Cameron Webb** are both now working hard on their respective degrees examining everything to do with the ecology of freshwater (Karen) and saltmarsh (Cameron) mosquitoes in the Homebush Bay area. Cameron continues to have the pleasure of pulling Karen out of the mud; we are expecting in years to come that a future scientist will unearth the Bog Woman of Homebush.

Agnieszka (Agi) Majder is continuing with the vector competence studies. The latest results were recently discussed at a meeting with Agi, **Richard Russell** and **Stephen Doggett** from Westmead Hospital, and **Ron Weir, Lyn Dalgarno** and **Ian Marshell** from the Australian National University. The meeting place has traditionally been held at Berrimah, the halfway point between Canberra and Sydney, a great place for discussions and scones.

In April, **Richard Russell** attended the Water

Resources conference in Townsville and afterwards assisted **Jeffrey Hii** with teaching vector-borne disease in the Department of Tropical Medicine, Anton Breinl Centre, James Cook University. In May, Richard was in Darwin assisting **Peter Whelan** of the Medical Entomology Branch, NT Health Department, conduct the mosquito control training course.

Steve DOGGETT
Regional Councillor

Biological & Chemical Research Institute, Rydalmere

Alan Clift attended the International Plant Protection Congress in The Hague, Netherlands in July and presented two posters, one on mushroom insecticides and the other on citrus spray oils in citrus.

Reasonable rains over much of the State has led to an increase in flystrike and consequent workload for **Gary Levot** and crew in the blowfly unit who have been receiving maggot samples for resistance testing and bioassays from several locations. Gary has also been busy with maggot samples from victims of murder/suspicious death.

Qld fruitfly continues to keep **Martin Horwood**'s hands full, particularly with changes to the range of chemicals available for use by home garden tomato growers.

Grant Herron has commenced bioassays of cotton aphids and cotton mites to add to his list of species credits which, until recently, was dominated by Western flower thrips. (When will journalists learn that "thrip" is not a singular form of "thrips"?). On the same subject, **Victor Rajakulendran** and **Ronald Coilparampil** have recorded WFT on field lettuce for the first time in NSW.

A collaborative project to assess the feasibility of introducing the grasshopper egg parasite, *Scelio parvicornis*, into Argentina to help control species of *Dicroplus*, *Scyllinops*, *Scotussa* and *Staurorhectus* has been initiated by **Graeme Baker** following a visit to BCRI by Drs **Marta Loiácono** and **Luis De Santis** of La Plata National University, Argentina. Graeme and **Richard Dysart**, USDA, have shown that *S. parvicornis* is a promising candidate following trials in regions of North America deficient in grasshopper egg parasites.

Andrew Beattie, Vic Edge and **Grant Herron** will soon be stars on - wait for it - the Korean Broadcasting System following a visit to the Institute of a camera crew preparing a docco on IPM. The crew also visited a citrus orchard and interviewed the grower. The performances were all highly polished but it is not expected that any of those involved will be making a korea of it.

The Taxonomy Unit has been busy (of course) with **Murray Fletcher** adding new genera to the Australian Deltocephalinae as fast as he can with the assistance of **Selliah Sundaralingam**. Murray visited Melbourne for an *Invertebrate Taxonomy* committee meeting in June and visited **Ken Walker** at the Museum of Victoria as well. **Danuta Knihinicki** has commenced her MSc work on eriophyid mites affecting commercial oilcrops of *Melaleuca*. **John Macdonald** attended the Eighth National Berryfruit Conference (keeping his hand in the pie?) in Coffs Harbour in late May and in June, with Murray, attended the presentation of the Herbert E. Gregory Medal to **Elwood C. Zimmerman** at CSIRO in Canberra. This prestigious award is presented by the Pacific Science Association and the Bernice P. Bishop Museum in Honolulu to recognise contributions to science in the Pacific. The presentation was made by **Robin Williams** of ABC Radio fame. While in Canberra John caught up with happenings in the mite group and Murray spent some time with **Max Day** talking leafhoppers, treehoppers and conferences.

In June, **Peter Gillespie** coordinated a pilot Pest and Disease Identification Course for staff members of Southern Cross Produce Pty Ltd who inspect and purchase produce from Flemington Markets for inter, intra and overseas markets. The course brought together an impressive array of BCRI expertise, covering adult and larval insects, mites, bacteria, fungi, viruses, nematodes and symptoms of diseases and damage caused by these organisms.

NEW SOUTH WALES, Country Areas

University of New England.

Peter Gregg and **Alice Del Socorro** of the Heliothis Inland Research group went inland (Queensland and South Australia) in May and July to search for heliothis and host plants. As well as successfully collecting invertebrates and plants they also branched out to vertebrates collecting an emu en route. Peter and Alice, as well as **Mozzem Khan**, also presented ongoing research at the

CRC for Sustainable Cotton Productions annual review in June at Narrabri. **Marie-Louise Johnson** visited **Stephen Trowell** at CSIRO Division of Entomology to collaborate on the use of serological methods as a tool for measuring predation on heliothis in cotton. **Angela Nesic**'s project on the reproductive ecology of *Agrotis* sp. is continuing.

From the Zoology department **Mary Notestine** is currently finishing off a project on the effects of fertilisers on soil organisms. Also nearing completion is **Prof. Danthanarayana**'s ARC project on the cold hardiness of the light brown apple moth, *Epiphyas postvittana*. Masters student **Mr Suratmanhas** returned to Indonesia to compare the effects of pesticides on soil organisms in the tropics with effects of pesticides in temperate New South Wales and Honours student **Lynda Blunden** is continuing to look at the effects of silt on aquatic insects. New to Zoology is PhD student **Samanthi Nagahaulla**. Samanthi will be working on the ecology of mite pests of tea in relation to biological control with predatory mites. Let's hope she doesn't collect any emus along the way!

Marie-Louise JOHNSON

Murray-Darling Freshwater Research Centre Albury

Tim New visited the area during mid-July with the 3rd year Zoology students from LaTrobe University. They were conducting their field work for Behavioural Ecology, in the Baranduda Ranges and Ryan's Billabong. Tim caught up with **John Hawking** and over a beer discussed dragonfly ecology. **John Hawking** and **Gunther Theischinger** are working together on a key to the dragonfly larvae of NSW for Ensight (the environmental arm of the Sydney Water Board). In the early 1980's the Murray Darling Basin Commission initiated a major program to monitor the macroinvertebrates of the River Murray. These data are now available on a large Access database designed by **Robert Walker** (ex Charles Sturt Uni.).

Paul Humphries is undertaking a study to assess the effects of changes in flow regimes on invertebrate and fish communities. There has been little agreement in the past as to the most appropriate methods for sampling macroinvertebrate assemblages of lowland rivers. So, an initial aspect of the study aims to compare the macroinvertebrates collected by four commonly employed techniques; edge sweeps, air-lift, artificial substrates and snags. Work continues on the artificial billabong project examining the response of the invertebrate fauna to various flooding regimes. Despite overcoming initial set-backs this project is providing temporal and spatial data which show interesting patterns of insect distribution.

John HAWKING
Regional Councillor

NORTHERN TERRITORY

Museum and Art Gallery of the Northern Territory

Graham Brown recently spent 2 weeks amongst a lot of old fossils in the Riversleigh/Lawn Hill region of Queensland, surveying the new Musselbrook Reserve. He was trying to catch tiphiids but caught a lot of cicadas and dragonflies instead. He then sailed to Ashmore Reef. This remote and forsaken outpost, barren, isolated and difficult to defend...but enough about Graham. Ashmore Reef consists of 3 tiny islands in the Timor Sea. They are home to millions of sea birds and space is at a premium, especially at high tide. There is little vegetation and the insect fauna was found to be sparse. Graham did some light trapping and didn't catch very much, although this could have been due to the constant strong winds. He had better success with his new marine fauna survey probe. I think he was attempting to catch more tiphiids, but all he managed to land were barracudas. One surprise, given the remoteness of the place, was the number of butterflies in very good nick with no obvious food plants for their larvae. Graham is planning on returning to Ashmore Reef next year to search for avian ectoparasites and do some more trolling for tiphiids.

Department of Primary Industry and Fisheries NT Quarantine and Inspection Branch

Both **Ted Fenner** and **Glenn Bellis** succumbed to the travel bug in June. Ted spent 3 weeks in Africa after reluctantly cancelling a butterfly collecting trip to Madagascar. Nevertheless he did manage to procure 40 specimens during his stay in Zimbabwe. Glenn returned recently from a 2 month driving holiday in Europe visiting 11 countries. He now admits that 11 countries in 8

weeks was too ambitious, but he enjoyed the trip anyway.

Department of Primary Industry and Fisheries Entomology Branch

No man is an island, but some men seem to spend more than their fair share of time on idyllic tropical ones. No sooner has **Stuart Smith** returned from looking at fruit flies on Mauritius than he's off to Fiji to examine a commodity disinfestation unit. He is not expected to return for some time. Are we jealous? Do the French let off bombs in somebody else's back yard?

Meanwhile **Graham Young** is immersing himself in a search for natural enemies of *Thrips palmi* and 2-spotted mite, and **Deanna Chin** is busy releasing *Tetrastichus brontispae*, a pupal parasite of the palm leaf beetle.

Department of Primary Industry and Fisheries Rangeland Production Branch

The Territory has gained its first Centralian AES member with the recent promotion (?) of **Debbie Van Rangelrooy** to Senior Rangeland Production Technician in Tennant Creek. Do they have insects there? Well they have flies, and Debbie is embarking on a control program that involves feeding them to her pet guppies. She has yet to make an impact on the population. Her first duty in the new job was to attend the Queensland Landcare Annual Conference in Longreach.

Department of Primary Industry and Fisheries Weeds Branch

Colin Wilson led a group of 29 weedies, quarantine officers, stock inspectors and assorted others (including Queensland's **Rachel McFadyen**) on a week-long study tour of weeds in West Timor. Dealing with Indonesian bureaucracy is not for the faint hearted and getting all participants to meet floating schedules was challenging, but somehow it worked. All the tour party were extremely impressed with Colin's confident command of the Indonesian language, while the Indonesians just looked slightly puzzled. A workshop on weed identification and control at Nusa Cendana University in Kupang was attended by over 50 local agricultural scientists and advisers. **Glenn Bellis** managed to get entomological by setting up various fly traps as we travelled around the countryside, and we examined the collaborative biological control program against *Chromolaena* (Siam weed) based at the university.

Grant Flanagan, following the time-honoured Darwin advice - when in pain, catch a plane - recently travelled to Adelaide to have an operation on his groin. The operation was a success and his mother offered to follow him back to Darwin to nurse him for a month or two. Unfortunately, Grant was so preoccupied admiring his surgically enhanced groin that he forgot to pick her up at the airport. You can take it from Grant that hell hath no fury like a woman scorned. Mrs Flanagan made a few more surgical adjustments to her son's groin and was last seen sporting a new pair of ear-rings.

Territory Health Services
Medical Entomology Branch

The onset of the dry season has meant a general reprieve from salt marsh mosquito plagues. However, helicopter surveillance and control operations by Branch staff and ground operations by the Darwin City Council and Conservation Commision Rangers have been continuing. The end of the financial year has seen the usual flurry of activity in preparing information for the annual report. Planning and development continues to remain high on the agenda. **Peter Whelan** has been heavily involved in the preparation of various reports and in the commencement of base line monitoring programs for biting insects around Palmerston and Shoal Bay area.

The Branch bade bon voyage to **Lisa Knight** who resigned recently to travel through Europe. **Ross Nowland** and **Barbara Love** have been busy taking up the slack until the appointment of a worthy replacement. The Branch welcomes the arrival of University of Queensland honours student **Andrea Wilson** who will be undertaking a project on characterising the breeding site of *Aedes funereus* around Darwin, under the supervision of Peter.

The inaugural Darwin Mosquito Control course was well received and acclaimed a resounding success. Participants were exposed to both theoretical and practical aspects of mosquito control in the Northern Territory. Many thanks to all Medical Entomology Branch staff for their tremendous efforts, the various guest lecturers (especially **Richard Russell**) and sponsors. **Peter Whelan** and **Gwenda Hayes** are now taking some well deserved time off.

CSIRO Division of Entomology
Tropical Ecosystems Research Centre

Founding member of the Mimosa Formation Bogging Team **Mark Lonsdale** has bid us a teary farewell and, following a brief but very cold stint in Canberra, is now in France. After an intensive month of French lessons in Paris (where he will be taught how to order a meal, catch a train, abuse a tourist and love the bomb), he will take up the OIC position at CSIRO's Montpellier laboratories. The floodplains will not be the same this wet season. For a start there will be fewer deep ruts across them, and much less grunting, straining and bad language. Not to despair, though. A new member is soon to be inducted into the world of mud, scratches, leeches and Ross River Fever. **Naomi Rea** will be attempting to plug the gap left by Mark's departure. Naomi has a background in wetlands plant ecology and is currently a Research Officer in the Environmental Studies Unit at the NSW Department of Water Resources (or whatever they are calling themselves this week).

With the icy blast of winter settling across the great south land, it's visitor season up here again, but the first guests were actually from the north. **Grant Farrell** and **Colin Wilson** spent a day conducting **Ted Center** and his tour party from the USDA, Everglades National Park and various other environmental agencies in Florida over the mimosa on the Adelaide River floodplains. While the sight of 30,000 hectares of mimosa monoculture was mighty impressive, highlight of the day was the lunch supplied at TERC.

Mic Julien from Brisbane spent a few days in June looking at the monitoring system used to evaluate mimosa biological control. Mic is involved in setting up the CSIRO Multi-Division Program to look at control of mesquite and prickly acacia. Following discussions with Grant at Longpocket during May, Mic has become interested in applying techniques already developed for mimosa to mesquite.

With Mark gone, **Wendy Forno** from Brisbane has stepped into his position on the Mimosa Steering Committee which oversees the mimosa control program at Oenpelli in Arnhem Land. This has meant more frequent visits from her and she will next be in Darwin in early August along with **Sukumar Chakraborty** (of CSIRO Tropical Crops and Pastures), with whom we have a collaborative project looking at the mimosa pathogen *Phloeospora*.

CSIRO Division of Wildlife and Ecology
Tropical Ecosystems Research Centre

It is pleasing to report that ANCA has offered to manage Kapalga as a research station for the remaining life of the current Kakadu Plan of Management (up to the end of 1996). The future of Kapalga will then be re-negotiated within the framework of the new Plan of Management.

During May, **Alan Andersen** undertook one of his rare forays into the field, surveying ants at Weipa as part of a CSIRO project on minesite rehabilitation. It seems that the use of ants as bio-indicators in land assessment programs is really catching on, with a host of graduate students around the country doing it. Good on them! Alan's labs will be humming to more of the same tune, or perhaps scratching to more of the same itch, when his Savanna CRC project on faunal indicators of biodiversity gets underway next year.

Colin WILSON
Regional Councillor

NORTH QUEENSLAND

U.S. Dept. Agriculture
Australian Biological Control Laboratory

In June, eight natural resource managers, biological control scientists, and administrators from research and funding agencies in the United States visited both of the ABCL labs in Brisbane and Townsville. All of the visitors are involved in controlling *Melaleuca quinquenervia* in Florida. The three weeks the visitors spent here, also included field trips to our melaleuca field sites in northern New South Wales and southern and northern Queensland. During their visit, they also inspected the CSIRO Long Pocket Laboratories and the Dept of Lands' Alan Fletcher Research Station and the Queensland Museum. The review of the Australian operations was favourable, with all agreeing that we had made good progress against a difficult target and that both laboratories should remain open. However, our lab director, **Joe Balciunas**, has been told since USDA policy limits its scientists to 6 years overseas, that he will be rotated back to the United States later this year. After nearly 11 years in Australia, Joe shows a reluctance to leave and appears ready to consider other employment options which would allow him to remain in Australia.

Tropical Public Health - Cairns

Scott Ritchie reports a busy autumn for the TPHU. Just as the Manunda (Cairns) dengue outbreak was drawing to a close, 3 human cases of encephalitis were reported from Badu Island in the Torres Strait. The medical entomology team was literally on the next plane. Upon arrival, they had a town meeting to explain the situation and what they intended to do. It was assumed that the culprit was Murray Valley Encephalitis, a potentially fatal arbovirus carried by the mosquito *Culex annulirostris*. **Andrew van den Hurk** and **Scott Ritchie** (TPHU), along with environmental health officer **Claire Bailey**, surveyed the area for mosquito breeding. Larvae were collected and breeding sites treated with methoprene pellets. That evening CDC light traps were set to collect mosquitoes. In addition to providing an index of mosquito populations, mosquitoes were also needed to isolate the virus. After all that, the community (pop. 780) was fogged with pyrethrum thermal fog. After a long day the VB's went down particularly well.

Despite rising at the crack of dawn to collect the trapped mosquitoes, green ants got to 2 traps first. Decent numbers of *Culex annulirostris* (about 200/trap) were collected, although *Aedes culiciformes* and *Aedes kochi* were also recorded in large numbers. *Aedes kochi* breeds in the axials of the pandanus trees that abound on Badu, while **Pat Marks** has reported that *Aedes culiciformes* breeds in crab holes. After spending most of the morning identifying mosquitoes and packing them in dry ice for storage, the hunt was on again for more larvae. The locals, especially the children, proved very helpful. Ask "Where is the water?" and they'd be off to some hidden pothole or slough, many of which had mosquitoes. Another night of trapping and fogging earned a rest, Torres style. A day on the water, a beer and a handful of crayfish.

In retrospect, the quick action paid dividends. No further cases of encephalitis were reported and the virus was isolated from the mosquitoes. To everyone's surprise it was not MVE but Japanese Encephalitis (JE), and this was the first time it had been reported from Australia. Further trips collecting and killing mozzies have been conducted. In addition, TPHU and the Department of Primary Industries staff have collected human and animal (dogs, pigs, horse) sera to isolate virus and examine for JE antibodies. Once these data are collated, it will make for an interesting story. For further details, see Hanna et al. (1995) Probable Japanese Encephalitis acquired in the Torres Strait. *Communicable Disease Intelligence* **19**(9) : 206-208.

Visitors to the Far North

Russell Parker (QDPI Indooroopilly) spent several days looking for Poinsettia white-fly in the Cairns region and predatory mites on the Atherton Tableland. **Bruce Sabine** and **Rob Allen** (QDPI Indooroopilly) have made various sorties to Torres Strait in response to a new incursion by *Bactrocera (B.) papayae*, one of the *Bactrocera dorsalis* (Oriental fruit fly) complex.

A group of mainly butterfly producers was reported to be meeting in Cairns in July to discuss, amongst other things, the increasing costs being imposed by certain authorities. It was to be organised by **Jack Hasenpusch**.

Northern Australian Quarantine - Mareeba

"Frenetic as usual" is the most appropriate way to describe NAQS activities in the far north in the first half of 1995. In February/March, **Barbara Waterhouse** and **Judy Grimshaw** visited Torres Strait for a survey which was interrupted by the formative stages of Cyclone Violet. Thence to Bamaga to learn how to handle and maintain hived *Apis mellifera* (sentinel hives) with assistance from two representatives of the Australian Apicultural Industry. While there, Judy detected *Aleurodicus dispersus* (spiralling whitefly) at Seisia, the first record of this pest on the Australian mainland; and succumbed to Scrub Typhus (?revenge from the arachnological world for spending so much time looking at insects!).

During Judy's convalescence Barbara participated in a mass conversion (to artificial nectar) and bee-lining course at Bribie Island, with other NAQS personnel and Apiary Officers from around the country. She later presented a paper on Siam Weed and a workshop session on weed identification at the Northern Territory Weeds Branch Annual Meeting, before completing a study tour in West Timor.

In late May the NAQS team was joined by budding entomologist **David Tenakani** of the PNG DAL for a survey of villages in the Western Province. Biological control agents for Spiralling whitefly and banana skipper butterfly appear to be establishing well in some of the villages visited. June saw a return to the Torres Strait for further

survey work and to participate in the annual training course for Torres Strait Quarantine Assistants. The team seems to have "disappeared" (on well-deserved leave) during July.

Tropical Weeds Research Centre
Charters Towers

Marie Vitelli has returned from 12 month's maternity leave raring to be back in action. She "celebrated" her return with an almost immediate stint as acting Professional Leader.

TWRC is gearing up for a major project on *Parthenium* biocontrol following an initiative of the State government. The project team will be led by Marie and there will be new appointments for an entomologist and an experimentalist.

The establishment of three biocontrol agents has been confirmed. The bruchid *Mimosestes ulkei* has established on *Parkinsonia aculeata* at a number of sites after only about a year of releases. There is considerable "excitement in the air" with the establishment of two agents for rubber vine. The rubbervine rust is spreading rapidly after its release this year. A surprise appearance has been made by the rubbervine moth, *Euclasta whallei*. This insect was released several years ago and thought not to have established. It has appeared with a vengeance and is causing complete defoliation in some instances. TWRC is being besieged with enquiries from the local community.

QDPI - Ayr

Mike Cole has resigned as Crop Protectionist in Ayr and taken up a position as a Plant Pathologist with AQIS in Canberra. **John Brown** is holding the fort while the future of plant protection in the Burdekin is debated.

QDPI - Mareeba and Innisfail

Continuing the tradition of leg abuse, for which local entomologists have a certain notoriety, **Bruno Pinese** and trail bike departed ways on the June long weekend to nearly replicate a femoral break of 12 years ago. In fact, the surgeon was able to use the same holes to pin the offending leg in the repair process. Much to Bruno's chagrin, this didn't translate to a fee discount. The bike was unscathed but may be headed for an extended rest.

A month earlier, Bruno and **Keith Halfpapp** attended the National Banana Industry Conference at Jupiters on the Gold Coast. Both were impressed with the magnitude and professional organisation of the conference, and with some of the scientific material presented. The less said about the gambling the better!

The first stage of DPI's Centre for Wet Tropics Agriculture at South Johnstone near Innisfail has been completed and work on the associated research labs will commence soon. **Bryan Cantrell** (Principal Projects Officer, Entomology) spent a few days in the north to discuss staffing arrangements and activities at the new facility with Regional Managers and the entomology group. There should be opportunities for visiting scientists to base themselves at the new labs to conduct short-term research in the wet tropics.

Ross Storey returned to work in May sporting a high-tech wheelchair. Now few have the chance to keep pace with him as he burns rubber through the A-block corridors. Ross is currently preparing a paper with **Henry Howden** (Carleton University, Ottawa) on the aphodid genus *Australoxenella*. Eleven new species will be described.

Patrick Huber, a Zoology honours graduate from UNE, is the recipient of a post-grad scholarship for fruitpiercing moth research funded jointly by the Centre for Tropical Pest Management and the Centre for Tropical Rainforest Ecology and Management. Patrick will be enrolled at James Cook, based at QDPI Mareeba and supervised by **Harry Fay, Phil Weinstein** (JCU) and **Don Sands** (CSIRO). He will particularly investigate the seasonal contributions of menisperm larval host plants to the annual size of pest populations of the principal moth species, especially *Othreis fullonia*.

This brings to an end a relatively painless but protracted role (3.5 years) as a Regional Councillor. My thanks go to all those who responded to my houndings for NQ news and I wish my successor well.

Harry FAY
Regional Councillor

James Cook University, Townsville

With the cooler weather, the sleeping bags get rolled up in the air conditioned offices and everyone gets back to normal work routines. **Phil Weinstein** did not stop sweating, however, because he achieved a lifetime's ambition by being in close proximity to **Olivia Newton-John** while he demonstrated fly-swatting techniques on TV (at least that's what he said they were).

Phil's student **Bruce Russell** won the

Queensland Entomological Society's postgraduate award for his research on mozzies. Meanwhile **David Slaney** shared some caves on Bellenden Ker and at Mossman with **Geoff Monteith** and **Jeff Wright** (Queensland Museum) in a CRC for Tropical Rainforest Ecology and Management (TRAM) sponsored search for troglobitic blattoid exotica.

In June, **Rhondda Jones, Richard Pearson, Chris Hill** and **Chris Reid** went to the annual meeting of the CRC TREM at Cape Tribulation where they gave progress reports and mingled with various non-entomologists. These included James Cook botanists **Rosemary Lott** and **Stuart Warboys** who are including insects in their studies of pollination of rare trees.

Fay Cheal arrived from Murdoch University in June to work with **Richard Pearson**'s team on the invertebrates of the Burdekin River. Richard's ARC funded Research Officer **Niall Connolly** is busy constructing artificial streams to examine detritus breakdown by Trichoptera. **Rachel Allan** (Melbourne University), who's here to observe chemical mimicry of green ants by some unpronouncable spiders, visited twice. Several postgraduate students are in the final throes of their projects, including **Rennie Roesli**, whose lips are sealed about the results of her work on *Liposcelis*, and **Manju Prasad** who is entrenched in her office writing up the trenching behaviour of *Epilachna*. **Chris Hill** departed in June for a well-deserved sabbatical away from the dry tropics at Leeds and Harvard Universities.

Chris REID
JCU, Townsville

S.E. QUEENSLAND

Queensland Department of Primary Industries Toowoomba

Brad Scholz and **Dave Murray** attended a meeting of *Trichogramma* workers at the Institute for Horticultural Development, Knoxfield, Melbourne on 13-14 July. There was good exchange of information between researchers and producers of *Trichogramma*.

Prof John Pinto, University of California, Riverside, will be visiting Australia on 19-25 September. CRCTPM and University of Queensland Department of Entomology are sponsoring his trip to conduct a 2 day workshop on *Trichogramma* taxonomy. Contact **Brad Scholz** for further information on this workshop.

Gordon Simpson attended the 3rd lecture tour by Lahey Computer Systems in Brisbane to hear **Tom Lahey** discuss the latest features in the new Fortran 90 compilers currently being released in Australia.

Queensland Department of Primary Industries Applethorpe

Frank Page's new project - biological control of tuber mealybug, *Pseudococcus affinis* - has been approved by the Australian Horticultural Research and Development Corporation. *P. affinis* has become an annoying pest of apples and pears at Stanthorpe and is also present on apples at Orange, NSW. In collaboration with **Dan Smith**, Principal Entomologist, Nambour, two key wasp parasites *Pseudaphycus maculipennis* and *Leptomastix epona* will be imported and host specificity tests run in quarantine facilities at the Alan Fletcher Research Station, Sherwood (Qld Department of Lands).

Frank Page also attended a meeting of interstate pomefruit entomologists in Canberra on 14-15 June where participants in the HRDC project "Towards the integrated management of Codling moth" reported on progress for the final year. **Richard Vickers**, CSIRO, chaired the meeting as overall project coordinator. Others present at the meeting: **Graham Thwaite**, NSW Agriculture, Orange, **Adrian Nicholas**, Masters Student, University of Western Sydney, **David Williams**, Institute for Horticultural Development, Victorian Department of Food and Agriculture, **Stephen Sexton**, Biocontrol Warwick, **Eric Rumbo** CSIRO, and **Paul Jones**, Extension Horticulturist, South Australia.

Queensland Department of Primary Industries Nambour

Entomologists at Maroochy Horticulture Research Station have been having a difficult time lately. In March, **Chris Freebairn**, while catching up on lost sleep, managed to roll the Commodore but escaped without a scratch. Ironically, the potentially most dangerous accident caused the least injury. On March 24, just hours before **Geoff Waite** was to fly to the Philippines on a ACIAR project visit, his left foot was severely injured when he was run over by the "barricade" on the set of the local production of "Les Miserables". What followed was cancellation of the trip and a

"miserable" five weeks in bed and on crutches. Geoff has just returned from a belated Philippines visit.

Not to be outdone, **Dan Smith** has recently come off second best after an altercation with a duck. While pedalling his bike along the entry road to the Research Station, Dan spied a large Muscovy duck in the middle of the road. Dan's brain and the duck's brain both calculated that to avoid a collision one should go left, the other right - which is what they both did except Dan went to his left which happened to be the duck's right. The bike went over the duck which continued on to swim blithely across the ornamental pond while Dan was left in shock with a dislocated shoulder. We await with anticipation the response of the Worker's Compensation Board to Dan's claim.

Meanwhile Dr **Manes Wysoki** of the Volcani Institute, Israel has arrived to spend a six-month sabbatical working with **Dan Smith** on culturing techniques for soft scales to facilitate the introduction and rearing of exotic parasitoids.

Queensland Department of Primary Industries Rockhampton

Rod Elder is a member of a Lands Department (Queensland) ministerial task force brought together in June to make recommendations to the Minister for Lands on locust control strategies. The task force has been instigated in response to a recent outbreak of spur-throated locust, *Austracris guttulosa* (Walker) in the Clermont District of the Central Highlands of Queensland. Depending on weather conditions next Spring-Summer there is a potential for the large populations in the Barkly Tablelands to Boulia area to be brought in on weather fronts to the cropping areas of Central and Southern Queensland and Northern NSW. Rod has published 5 papers on the biology and behaviour of *A. guttulosa*, the result of studies undertaken in the last outbreak of the 1970s.

Private Sector -
Integrated Pest Management, Mundubbera

"Bugs for Bugs" have taken over the running of the *Trichogramma* rearing facility formerly at Stahmann Farms, Moree. They will be supplying *Trichogramma* for control of *Maroga melanostigma* in the pecans initially and hope to produce for other lepidopterous pests in a range of crops.

Dan Papacek is visiting **Paul Horne** at the Institute for Horticultural Development, Melbourne in July to discuss a pilot project to rear braconid parasitoids of potato tuber moth for the potato industry.

Gordon SIMPSON
Regional Councillor

SOUTH AUSTRALIA
Department of Crop Protection, University of Adelaide

Congratulations to **Jörg Kitt** and his wife Catherine on the birth of their daughter Sophie on 23rd April. Also, kudos go to honours student **Gwen Mayo** on the award of the SARDI Women's Suffrage Bursary. Gwen will use the money to travel to the upcoming meeting of the International Society of Hymenopterists in California.

A number of research students have recently joined the Department. **Stephen Ball** will pursue a PhD with **Mike Keller** and **Hugh Possingham** involving metapopulation dynamics of insects. **Dwi Iswari** will work with Mike Keller on augmentation of parasitoids for control of cabbage moth. **Marcus Beck** and **Craig Welby** will work towards PhDs under **Otto Schmidt** on insect immunity. **Darryl Jackman**, **Chris Soar**, **Makoto Kamei** and **Kaye Ferguson** are pursuing Honours degrees in entomology this year. **Janine Lloyd** has completed her work on entomophagous nematodes and is planning to pursue postgraduate studies in the future.

Andy Austin and **Mike Keller** presented papers at the Nicholson Centenary Meeting in Canberra. They were joined by **Tom Browning**, **Tom White**, **Stephen Ball** and **Greg Calbert**. After the meeting, **Louise Vet** (Wageningen Agricultural University) and **David Rosen** (Hebrew University of Jerusalem) visited the department and presented seminars. Another visitor was **Lawrence Mound** (Natural History Museum, London) who spoke on the roles of sex and violence in the evolution of thrips.

Andy Austin and his group went to Kangaroo Island in February to collect insects and for R&R. Discussions are continuing on the proposed move of the Insect Pathology Laboratory to the Waite Building.

Rick Roush finally arrived with a bomb. Or so we thought until it was discovered that the taped-up clock radio on his United Airlines flight was only that, and not a surprise package assembled by the "Una Bomber." Rick's work on population genetics and pesticide resistance will span the entomology

and weed science groups in the Department. Another new entomologist is Dr. **Brigitte Tenhumberg** from Simon Fraser University who joined **Mike Keller**'s group as a postdoc. She will work on an project funded by ARC aimed at modeling the behaviour of parasitoids. There must be a potent pheromone in the air of **Otto Schmidt**'s lab. **Uli Theopold** recently married **Gabe Delp**, and **Sassan Asgari** has announced plans to marry Claudia. There are rumours that **Scott Field** has been in Otto's lab too, because he was married to **Pearl Panickar** in the romantic setting of the Cedars of Lebanon. Will Natalie be next?

Paper is in short supply because so many people have been writing theses. **Bill Frost** submitted his PhD thesis "The ecology of cereal rust mite *Abacarus hystrix* (Nalepa) in irrigated perennial dairy pastures in South Australia." **Gwenda Mayo** submitted her Honours thesis "Morphological and biochemical taxonomy of the leaf blister sawflies *Phylacteophaga* Froggatt (Hymenoptera: Pergidae)." The submission of **Paul Dangerfield**'s thesis on the systematics of the Cardiochilinae (Hymenoptera) is imminent.

The new Cooperative Research Centre for Weed Management got underway at the beginning of July. **Rick Roush**, **Gary Taylor** and **Steve Powles** have been busy getting it running and planning for new staff appointments and renovation of offices and labs to suit the CRC.

Andy Austin is off for six months of study leave starting at the end of July. He will start with the upcoming conference of the International Society of Hymenopterists at Davis, California. Also going to the conference will be **Paul Dangerfield**, **Mark Dowton**, **Lynne Grbin**, **Gwen Mayo** and **Otto Schmidt**. Watch this space for a report on their travels.

Gary Taylor, **Kerrie Davies** and **Janine Lloyd** have been studying an unusual association between the agromyzid fly *Fergusonia* and the tylenchid nematode *Fergusobia*. The nematodes alternate between a parthenogenetic generation in galls of *Eucalyptus* and a sexual generation in which females are parasitic inside female flies. When a fly lays its eggs, the nematodes induce a gall in which the developing fly larva lives.

SARDI Entomology Unit

The new SARDI/PISA Plant Research Centre at the Waite Campus was officially opened on the 27th of April by the Premier of South Australia, the Hon. **Dean Brown**. The Centre boasts an impressive array of research facilities and equipment.

The last three months has seen a steady stream of visitors to the Unit to discuss projects connected with the new CRC for Weed Management, including **Jim Cullen** and **Mark Lonsdale**. **Paul Wilson**, of the WA Department of Agriculture, visited the Unit in June as part of an information gathering tour of rearing facilities in the Eastern States for biocontrol agents of Paterson's Curse.

Dennis Hopkins travelled to the Netherlands in early July to attend the International Plant Protection Congress. Dennis capped off the trip with visits to various institutions in the Netherlands, the U.K. and Switzerland, where he discussed snail baits with industry and research workers. Among the large contingent of Australians encountered by Dennis at the IPPC was the seemingly perennial jet-setter **Peter Bailey**. Peter has been absent from Australia since mid-May. Accompanied by **Trevor Wicks** of SARDI's Plant Pathology Unit, Peter has been travelling through Portugal, Spain and France collecting potential control agents of cutleaf mignonette in Australia. Following the Congress, Peter travelled on to the U.K. and then to New York, where he met with USDA-APHIS personnel to discuss SARDI's export citrus disinfestation program. Peter is expected to return to Australia in late July.

Ken Henry reported minimal plague locust activity following a survey of the north-east pastoral and northern Flinders Ranges in May. Of greater concern to the Unit was the first report of Western flower thrips in South Australia. Reasonable numbers of the pests were recovered from carnations at a site in the northern Adelaide plains in May. Although monitoring of the area is continuing, it is hoped that the outbreak has been isolated.

Gabriella Caon attended a *Trichogramma* workshop held at the Institute for Horticultural Development, Knoxfield, on 13-14 July. The Unit hopes to initiate a program this spring to select strains of *Trichogramma* for the control of *Helicoverpa punctigera* in pulses. Among topics discussed at the meeting were techniques for field sampling and rearing of *Trichogramma*.

Greg Baker visited the greater Sydney area in May in search of a parasitoid of citrophilous mealybug, *Coccophagus gurneyi*. More recently,

Alex Newman has managed to uncover the elusive parasitoid in Somersby, an outer suburb of Sydney. Greg is currently initiating steps to bring *C. gurneyi* into culture. It is envisaged that the parasitoids will be mass-reared and released into South Australia's Riverland district. Greg, accompanied by **Sharon Foulis** of SARDI's Loxton Research Centre, has recently investigated an interesting association between citrophilous mealybug and black nightshade, a common weed of citrus orchards in the Riverland. The mealybugs apparently aggregate in high numbers within the hollow stems of large nightshade plants, and can often be found feeding on the roots well below the soil surface.

Mealybugs and tortricids continue to create potential problems on Riverland navel oranges exported to the United States. **Peter Taverner** has completed a disinfestation trial, in which about 20 tonnes of export-grade navels were dipped in a food-grade, fully bio-degradable oil at various Riverland packing sheds. Around half of the experimental fruit has been exported to the USA and Peter will travel to Washington in early August to assess the effect of the oil on fruit quality and on the survival of invertebrates under the calyx of the fruit. It is likely that detections of "actionable" invertebrates on exported navels will be minimal this season. **Bill Frost's** surveys of the mite fauna of Riverland citrus have indicated that numbers of tarsonemids are well down on last year, this possibly being correlated with decreases in mealybug populations, and associated declines in levels of sooty mould on the fruit.

SARDI, Loxton Research Centre

Two new air assisted spraying systems developed by **Geoff Furness** of the Loxton Research Centre, the bluff plate boomsprayer and the "fazzle" multi-head sprayer, have been incorporated into commercial sprayers recently released by Vogt Engineers at Tarlee in South Australia. Geoff has for a number of years been involved in researching low volume spray application technology. He has concentrated on air use efficiency and is developing novel systems that produce large volumes of low velocity, turbulent air. The use of fine droplets in combination with these air use principles has dramatically improved spray coverage and uniformity, especially on lower leaf surfaces and inner canopy sites, and has reduced run off and drift.

State Water Laboratory

Peter Goonan, **Fran Sheldon** and **Chris Madden** have completed the third survey for the Monitoring River Health Project. Highlights of the field work included flowing water in Cooper Creek and some interesting channel modification by the south-east Drainage Board at Benara Creek. Sorting of the first survey samples is complete and data entry, with all its intricacies, is well underway. **Phil Suter** is champing at the bit to get hold of the data for analysis and find out how the sites are associated.

School of Biological Sciences
Flinders University of South Australia

Michael Bull is investigating ecological interactions between ticks and their reptile hosts. A central question concerns the mechanisms maintaining parapatric boundaries between pairs of species. Three postgraduate students are also involved in the reptile tick work. **Adam Main** is investigating the impact of ticks on their host lizards, **Cathy Smallridge** is looking at blood parasites transmitted by ticks to sleepy lizards and **Jurgen Stein** is starting a project looking at ticks on the gidgee skink, *Egernia stokesii*.

Also **Noel Cordell** is looking at variation between lizards in quality as hosts for ticks (for his honours project). Two other postgraduate entomological projects are those of **Tabatha Griffin**, who is looking at ant communities in the semi-arid blue bush country of SA, and **Tracy Dawes**, who is looking at community interactions in the litter fauna in the same area.

Mosquito Research Group
University of South Australia

Mike Kokkinn has ensured his honours students **Scott Bemmer**, **James Cowling** and **Matthew Goodwin** are kept on their toes with a diverse range of experimental programs, including developmental studies which require round-the-clock observations.

CSIRO Entomology and Soils

June saw the annual pilgrimage by **Penny Carter**, **John Buckerfield**, **Paul Dalby**, **Jason Woods**, **Angie Crichton** and **Geoff Baker** to Cape Grim in north-west Tasmania to collect earthworms, especially the introduced, deep

burrowing *Aporrectodea longa*, for trials in South Australia and Victoria. The weather at Cape Grim (just the name puts you off) was its usual foul self and even the wombats stayed underground this year, but spirits were high around the fire in the pub at night. The worms are now working their way through the soils of western Victoria and the Mt Lofty Ranges of S.A., showing their abilities to bury lime and off-set soil acidity, increase nutrient supply and improve pasture production.

New arrivals within the group include **Chris Obst** and **Adam Brown**. **Jason Woods** has decided that work in the Victorian Alps was too much of a temptation and has swapped his spade for skis. A mini baby boom has hit the lab with both **Vicki Barrett** and **Geoff Baker** extending their families. Congratulations to **Ping Choo** who was recently awarded a JR Barker Scholarship which will enable her to expand her honours project on the influence of agricultural chemicals on earthworms, and *vice versa*.

Penny Carter and **Geoff Baker** expect a shipment of *Sarcophaga* parasites of Mediterranean snails, which should have arrived from France by the time this is in print. In a collaborative project with **Dennis Hopkins** (SARDI), the flies will be mass-reared under quarantine and tested for host-specificity against a range of native Australian snails.

Consultant Entomology

Pest activity in the upper and lower south-east of South Australia has been quiet over winter, according to **James De Barro** of Crop Monitoring Services P/L. Although red legged earth mite have been active, control programs have been very effective. Blue green aphid were common in autumn, especially on lucerne pastures, although numbers have declined during winter. Meanwhile, cabbage aphid have begun appearing on brassica crops.

The team at CMS have begun analysing results of last year's herbicide and insecticide trials, which were conducted for private companies and also to increase CMS's data base of product knowledge. CMS has recently constructed a small 5-row combine, which may be pulled by vehicle or by hand. Using this and a similarly sized and operated boom spray, CMS is now available to conduct trial work for agricultural businesses.

Bill FROST and Mike KELLER
Regional Councillors

TASMANIA

CRC for Temperate Hardwood Forestry

Martin Steinbauer recently collected two specimens of a little known coreid, namely *Acantholybas kirkaldyi* Bergroth (Coreidae: tribe Colpurini). A male specimen was collected near Brooks Bay whilst a female specimen was collected near Nugent, Tasmania. Specimens of this species have not been seen since it was originally described in 1909. The species has now been placed on the Tasmanian Parks and Wildlife Service's list of Insufficiently Known Native Invertebrates of Tasmania and it is hoped that additional specimens can be found in order to learn more of this species' biology.

Tasmanian Museum and Art Gallery

Roger Buttermore (Tasmanian Museum) and **Peter McQuillan** (Univ. of Tasmania) submitted a joint application for funding to the Australian Nature Conservation Agency (ANCA) Feral Pests Program on "The distribution and impact on native ecosystems of the recently introduced bumble bee, *Bombus terrestris* (L.) in Tasmania".

Tasmanian Heads of Collections Meeting

The quarterly meeting held at New Town Research Laboratories was attended by **Dick Bashford, Roger Buttermore, Tim Kingston** and **Trevor Semmens**. Discussion focussed on the establishment of the insect collections at Agriculture and Forestry as "satellite" collections of the Tasmanian Museum in order to obtain long term protection. Forestry Tasmania has initially agreed in principle to the change while DPIF are awaiting changes within the Department before making a decision.

Queen Victoria Museum

Tim Kingston reports that *Invertebrata*, edited by **Louise McGowan** has over 200 people on the mailing list.

Forestry Tasmania

Jane Elek attended the Nicholson Centenary Meeting in Canberra and presented a poster display on the effects of fluctuating populations of chrysomelid leaf beetles on the growth of plantation eucalypts.

Dick BASHFORD
Regional Councillor

VICTORIA

Department of Agriculture, Energy and Minerals
Institute for Horticultural Development

Paul Horne has been studying the potential for mass-rearing and releasing parasitic wasps for control of potato pests. He and **Cindy Edward** visited **Dan Papacek** (Qld) in April to discuss this idea and also more general issues of collaboration between commercial insectaries and researchers. The July *Trichogramma* workshop at Knoxfield will provide Dan and others with the opportunity to inspect research facilities and, of course, the chance to look closely at collaborative projects. Paul is also busy with the final stages of his project looking at insects in conservation tillage crops in the Wimmera. He expects to have the field trials finished by December.

The continuing research into *Trichogramma* as a biological control agent was discussed over two days at the 2nd National *Trichogramma* Workshop at IHD, Knoxfield, on 13 and 14 July. Organised by **Richard Llewellyn** of BioProtection and **Brad Scholz** of DPI, Qld and hosted by **Peter Ridland** (IHD), the workshop covered design of field trials, strain selection, oviposition behaviour, effects of chemicals, cold storage, life history characteristics and practical taxonomy. **Richard Llewellyn** led the way with promising results from field trials in citrus, grapes, pome fruit, tomatoes and capsicum. He also presented work from cold storage experiments and ongoing quality control work.

The group from the Department of Genetics and Human Variation, LaTrobe University, led by **Ary Hoffmann**, included **DeAnn Glenn, Tracey Bjorksten, Swarna Hewa-Kapuge, Miriam Newman** and **Kristin Latimer**. They are currently working on various projects, including quality control for commercial production, control of lightbrown apple moth in vineyards and strain selection for control of heliothis. **DeAnn Glenn** has successfully isolated a strain of *Trichogramma* for control of lightbrown apple moth which showed very high rates of parasitism in field trials. The strain is being reared by BioProtection and will be used in commercial releases in vineyards next season.

Stored product pest researchers **Jane Wright** and **David Rees** from CSIRO, Canberra, are the newcomers, currently investigating the use of *Trichogramma* against *Ephestia* and *Plodia* species at the Uncle Toby's company.

Jean Bentley, Peter Cole, Paul Horne and **Jing Ye Zhang** of IHD presented work on *Trichogramma*, including effects of chemicals, development time, electrophoretic identification and sex allocation.

Dave Murray and **Brad Scholz** from DPI, Qld, presented results from work on field and lab. trials on *Trichogramma* for use on heliothis in cotton, corn and tomatoes. High rates of parasitism in sweet corn field trials were particularly promising.

Department of Agriculture, Energy and Minerals
Plant Sciences & Biotechnology
LaTrobe University

Entomology and nematology at PS&B continues to bubble along successfully on several fronts. Dr **Mike Wiess**, Associate Professor of Entomology at North Dakota State University has spent 4 months (March to July) on sabbatical with **Garry McDonald**, working on establishment pests of canola, particularly redlegged earth mite. In his short stay he was able to finish some nice work on earwigs as RLEM predators and on the effect of water stress on canola susceptibility to mites. **Jacinta Duncan** has joined the entomology team and is working on cultural control of RLEM in canola. **Melena Miles**, who was recently appointed to the entomology position at the Victorian Institute for Dryland Agriculture, Horsham, has spent some time at LaTrobe coming to grips with field crop entomology in Victoria.

Gordon Berg, Lind McLeish and **Jill Hinch** have started their regular autumn and winter sojourns to Timboon and Ellinbank and have now shown some remarkable impacts of nematodes on white clover growth.

The University of Melbourne
Department of Genetics

Jon Martin was overseas on study leave for the first four months of this year - mostly in the USA, but with short periods in the UK and Germany. The first few weeks were spent with **Jim Sublette**, now retired to Tucson, Arizona from the University of Southern Colorado, working on descriptions of the group of North American species related to *Chironomus atrella*. This work was later continued with **Wolfgang Wulker** in Freiburg, Germany. From Tucson it was up to chilly Fargo, North Dakota to talk *Chironomus* with **Mac Butler** and give a seminar at North Dakota State University. Then down to the deep South for nine weeks in

the Biochemistry Department, University of Mississippi Medical Centre at Jackson, working with **Steve Case** on the evolution of Balbiani ring genes in Australian chironomids (both Mac and Steve attended the International Chironomid Symposium in Canberra in January 1994). The opportunity was taken to attend the meetings of the Mississippi Academy of Sciences and to talk about chironomid gynandromorphs.

Whilst the time in the UK was mainly holiday, it provided the opportunity to meet up again with **Declan and Freddie Murray** and **Paddy Ashe**, who had also been at the Canberra meeting. In London, Jon was able to discuss, with **Peter Barnard** of The Natural History Museum, the final changes needed for the publication of a bibliography of chironomid cytogenetics, which will attempt to make sense of the varied names applied to chironomids in cytological papers over the years. In Germany, besides the visits to Frieburg, there was also a seminar and discussions about sex determination in *Chironomus* in the lab of **Erwin Schmidt**.

Andrew HENDERSON and Robyn COY
Regional Councillors

WESTERN AUSTRALIA

WA Department of Agriculture

Rob Emery attended the annual meeting of the Australian Wheat Board's Working Party on Stored Product Protection in Melbourne. He extended his visit to meet with the GRDC Grain Storage Subprogram Management Team and assist in the development of priorities for research investment. While in Melbourne Rob was also able to take in the Australian Skeptics National Convention, which has nothing to do with insects.

Stewart Learmonth attended a Viticulture workshop in the Hunter Valley, NSW in May to discuss beetle pests. He also visited BCRI Rydalmere to discuss resistance in two-spotted mites with **Grant Herron**.

Françoise Berlandier has recently produced two colour posters for pest and disease identification in tomato and cucurbit crops. The posters are in response to repeated calls for diagnosis of common pests and diseases of these horticultural crops and should help growers distinguish between insect/fungal/viral/bacterial damage. Each poster brings together the 11 most common pests and diseases in WA using colour photographs. The accompanying text describes how to identify the problem, when they are most likely to occur, and the likely damage if not controlled. Control measures are not included due to space limitations and the frequency at which pesticide registrations alter. The posters were funded by the Horticultural Research and Development Corporation, Bayer, Crop Care and the WA Department of Agriculture.

Agriculture Protection Board

European earwigs have been found at several locations in the south-west of WA. Several caravan parks have been infested, with high numbers under tent awnings. These insects continue to cause damage to lupin and canola crops. One farmer had to seed 3 times because the first 2 crops were eaten by the earwigs. They also feed on seed pods and contaminate the harvest.

Peter Davis and **John van Schagen** are continuing their research on ant baits. A large-scale field trial is underway to determine the efficacy of a newly developed bait in eradicating an entire infestation of Argentine ants. Argentine ants research still has a high profile. The latest victim of the invading ants is the Minister for Agriculture. He has got large numbers of the ants on his property, so funding to find a solution shouldn't be a problem! Some large, trial eradication sites have been chosen to test the newly developed bait. A smaller infestation around a shopping centre has been successfully eradicated.

University of Western Australia

Dr **Leigh Simmons** will be based at the Zoology Department from late August with a Senior ARC Research Fellowship for 5 years working on the evolution of insect mating systems. Leigh will be joined by UWA Fellow **Matt Gage** in late September. **Rod Hale** has started a PhD project on the Gryllacrididae and would be happy to contact anyone else in Australia who has experience with these insects. His email address is rhale@uniwa.uwa.edu.au.

WA Museum

The Entomology and Arachnology Sections were in chaos for a couple of weeks during July as minor renovations took place, which provided Entomology with 25% more laboratory space. Visitors to Entomology will be more comfortably accommodated and Dr **Jim Cane**, a pollination

specialist from Auburn University, Alabama, is expected to take up temporary residence in mid-Ausust. Jim plans to work on aspects of bee pollination of native plants in the south-west of WA for 3 months and will be interested to meet others with similar interests.

Terry Houston has been awarded a $10,000 grant by a property development company to study aspects of the ecology of a native bee, *Hylaeus globuliferus*, in south-western Australia over 2 years.

David COOK
Regional Councillor

OVERSEAS NEWS

PAPUA NEW GUINEA

The Director of the Cocoa and Coconut Research Institute (CCRI) is an Entomologist - Dr **John Moxon** has now been the Director of CCRI for almost two years. His able handling of CCRI's affairs has now made CCRI probably the best run Research Institute in PNG. John instituted rigorous evaluation of each and every project before it reached the implementation stage. His insistence on accountability has not gone unnoticed by external aid agencies who provided his institute a sizeable grant to proceed with coconut research.

John Moxon, Director of CCRI.

John, a native of Great Britain, joined DAL, Keravat, as an Entomologist some fifteen years ago rising to the rank of Senior Entomologist and eventually the Team Leader of DAL, Keravat (1986-93). He has worked and published extensively on cocoa pests.

Coconut Entomology in PNG

Coconut entomology has taken off with the appointment of a French Entomologist, Dr (Mrs) **Laurance Ollivier**, by the Cocoa and Coconut Research Institute, Keravat. The following studies are in progress in Madang on the PNG mainland.

1. Breeding, behaviour and natural enemies of *Scapanes australis*.
2. Behaviour and natural enemies of *Oryctes centaurus*.
3. Trials using virus and pheromones to control *Oryctes*.
4. Population monitoring of Black Palm Weevil, *Rhynchophorus bilineatus* using pheromones.

A number of projects in cocoa entomology are also in progress. Notable among these are cocoa resistance to *Pantorhytes* weevils by **Bob Prior** and a major project on the control of cocoa mirids with the entomopathogenic fungus, *Beauveria bassiana*, by **Samson Laup**.

Ray KUMAR
Overseas Correspondent (PNG)

COMING EVENTS

Xth INTERNATIONAL CONGRESS OF ACAROLOGY

The Xth International Congress of Acarology will be held in Canberra, Australia, from 6-10 July 1998. The host institution will be CSIRO Division of Entomology, and Congress meetings and accommodation will be in the Australian National University. Start making your travel plans now, and help us make the first ICA in Gondwana a great success. We plan to send out the first Congress circular in about June 1996.

Further Information:

Dr Bruce Halliday
Principal Research Scientist (Acarology)
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GPO Box 1700
CANBERRA ACT 2601
AUSTRALIA
Phone: (06) 246 4911
Fax: (06) 246 4000
Email: bruceh@ento.csiro.au

9TH INTERNATIONAL AUCHENORRHYNCHA CONGRESS
Sydney, Australia
17-21 February 1997

The first Circular for this conference is now available. All subscribers to TYMBAL, the Auchenorrhyncha Newsletter, will be sent a copy. Further copies can be obtained from:

Australian Convention and Travel Services
GPO Box 2200
Canberra ACT 2601
Australia
Ph: (61-6)(06) 257 3299
Fax: (61-6)(06) 257 3256

Further information:
Dr M.J. Fletcher
NSW Agriculture
PMB 10
RYDALMERE NSW 2116
email: fletchm@agric.nsw.gov.au

INVERTEBRATE BIODIVERSITY AND CONSERVATION CONFERENCE
University of Melbourne
27 November - 1 December 1995

Information & registration from:
Dr Tim New
School of Zoology
La Trobe University
Bundoora VIC 3083
ph: 03 479 2247
fax: 03 479 1551

ENTOMOLOGY COLLECTIONS NETWORK ANNUAL MEETING
Las Vegas, Nevada
December 16-17, 1995

The 1995 Annual Meeting of the Entomology Collections Network will be held December 16 and 17 at the Sahara Hotel and Casino, Las Vegas Nevada, just prior to the Entomology Society of America meetings in Las Vegas which begin on Sunday, December 17.

Registration materials and additional information will be mailed in Mid-September. At this time, we anticipate an advance registration fee of $20. Anyone wishing registration materials who is not currently on our mailing list should contact:

Jim Woolley
ECN Steering Committee
Department of Entomology
Texas A&M University
College Station, Texas 77843, USA
Fax: 409-845-6305
Email: jimwoolley@tamu.edu

Tentative Program:
BIN-21.
Geographic Information Systems and Systematics.
Impact of the Internet on Collections.
Electronic publication.
Public Interface and Exhibits.
Legal Issues, including Status of Proposals for Repatriation of Specimens.
Preservation and Curation of Slide-Mounted Specimens.
Update on Smithsonian Profile System for Collection Inventory
Appraisal of Collections for IRS or Insurance Purposes.
Committee reports
Business Meeting - Election of Officers

INTERNATIONAL CONFERENCE "TECHNOLOGY TRANSFER IN BIOLOGICAL CONTROL: FROM RESEARCH TO PRACTICE"
Montpellier, France
9-11 September 1996

This conference, sponsored by the International Organisation for Biological Control (IOBC) and CILBA, a branch of Agropolis International will examine the problems of technology transfer in biological control from research into practice.

The objectives of the conference are:

1. To demonstrate the effectiveness of biological control using an array of successful reliable examples;
2. To document the basic importance of biological control in developing IPM programs, and in sustainable agriculture;
3. To identify major problems in implementing biological control;
4. To promote interactions between entomologists, pathologists, weeds scientists and other specialists;

5. To provide a forum in which biological control researchers from the private and public sectors can meet with plant protection advisers, extensionists, teachers, producers, manufacturers, salesmen and policy makers.

For further information contact:

F. Bigler, Secr. General IOBC
Swiss Federal Research Station
Reckenholzstr. 191
8046 Zurich
Switzerland.
Fax: (33) 67 04 75 99

FOURTH INTERNATIONAL SYMPOSIUM ON ADJUVANTS FOR AGROCHEMICALS
Sheraton Hotel, 13 Spring St Melbourne
3-6 October 1995

Details: *Myrmecia* 30(4): 64

Contact:

Fiona Richardson
FISAA Symposium
PO Box 1108
FRANKSTON VIC 3199
Tel: 03 785 0137
Fax: 03 785 2007

XX INTERNATIONAL CONGRESS OF ENTOMOLOGY
Florence (Italy)
August 25 - 31, 1996
Palazzo dei Congressi

Information and copies of the registration form can be obtained from:

Organising Secretariat O.I.C.
Via A. La Marmora, 24
50121 Florence
ITALY
Tel. ++39-55-5000631
Fax ++39-55-5001912

XIVth International Congress for Tropical Medicine and Malaria

"New Goals for the 21st Century"
Nagasaki Japan, 17-22 November 1996

The First Circular of the above Congress is now available. Further information is available from:

Ms S. Tominaga
XIVth ICTM Secretariat
c/- The Institute of Tropical Medicine
Nagasaki University
1-12-4, Sakamoto
Nagasaki, 852 JAPAN

(The editor of this publication has three copies of the first Circular, if anyone wants one)

NOTICES

I WANT BUG PREDATORS OF CATERPILLARS!

I am looking for sources / colonies / (helpful) hints for obtaining nabid and pentatomid predators of noctuid caterpillars to use in the non-target section of a virus host range study. Please contact me if you can help.

David Dall
CSIRO Entomology
GPO Box 1700, Canberra. ACT 2601
phone: 06 246 4117
fax: 06 246 4173
email: davidd@ento.csiro.au

REQUEST FOR MANTID OOTHECAE

The following email request was received from Nicole Glardon. I don't know Nicole's affiliations but she can be contacted by email at: nicolett@ix.netcom.com

Subject: Australian mantids

Dear Dr Fletcher,

I breed mantids and was referred to you for I am trying to find Australian species.

Please let me know if you or someone you know could help me find oothecae from any of your endemic mantids. I would like to know what genera is to be found in your part of the country. It is no emergency since I am leaving for a month now, but I just like to touch base with you before my vacation, so that I have some good news to read about when I come back.

I am ONLY interested in live-oothecae of ANY

genera endemic to Australia.

If you know of any other breeders, I would be please to find out about them too.

If you are looking for anything yourself... please let me know.

Regards. Nicole

NEW PUBLICATIONS

NEW NEW NEW NEW NEW NEW

DIRECTORY OF
SOUTH-WEST PACIFIC
ENTOMOLOGY

Edited by John T. Jennings

Published by The Australian Entomological Society, May 1995.

Price: AUS$10.00 including postage.

This new-look Directory replaces the Directory of Australian Entomology and has been expanded to include over 930 entomologists from the South-West Pacific. Countries covered include American Samoa, Australia, Fiji, Kiribati, New Zealand, Papua New Guinea and Tonga.

For each entomologist, their full name, including given name, address, telephone, Fax and E-mail are provided as are their interests.

Separate lists of entomologists are also provided which detail organisational affiliation by country/state, and fields of interest.

Orders to: Ms Alison Roach
Business Manager
Australian Entomological Society
c/- CSIRO Div of Entomology
GPO Box 1700
Canberra ACT 2601
AUSTRALIA

Payment (in Australian dollars only, please) may be made by money order or cheque.

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY
INSECT ILLUSTRATION COMPETITION
1995

'A Competition to encourage and recognise high standards of entomological illustration'

The Australian Entomological Society invites unpublished entries to this competition which will be judged and displayed at the Society's Annual General Meeting and Scientific Conference to be held in Tamworth, NSW, during 23 - 28 September 1995.

The competition is open to members and non-members of the Society.

Entries, up to three per entrant, must be either black and white or coloured, whole-body (dorsal or lateral views) taxonomic illustrations of insects or allied forms, such as shown in *The Insects of Australia*. The mounted illustrations should not exceed 21 x 30 cm (approx. A4 size) and must be suitable for reproduction after reduction of 50%. Postal entries must be carefully packed and include stamps or a postal order sufficient to cover the cost of return postage, where necessary.

Entries will be reviewed by a Judging Committee.The Society shall have the right to display selected works in public and to reproduce the illustrations, with appropriate acknowledgement, on Society goods which it sells, and in magazines, for a fee.

Entries must be in the hands of the Convener of the Annual General Meeting by 8 September 1995

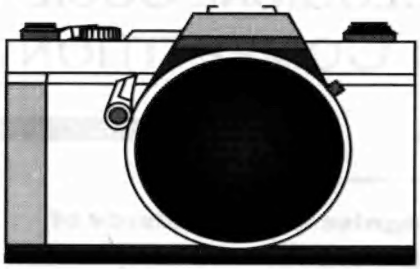
Categories: Student Section (1) Colour (2) Black and White
Open Section (1) Colour (2) Black and White

Total funds avaliable for cash prizes will be in the order of $1500.

Each entry is to be accompanied by the following information:
*Name of entrant, *Postal Address, *Current enrolment details (if a student), *Category of entry/entries, *Scientific name of Insect.

Forward entry/entries and above information to: Dr R V Gunning, Convenor of AES 26th Annual General Meeting, C/o Agricultural Research Centre, PMB 944, Tamworth NSW 2340

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY



INSECT PHOTOGRAPHIC COMPETITION 1995

'A competition to encourage photographic expertise in the field of entomology'

The Australian Entomological Society invites unpublished or not previously displayed entries to this competition which will be judged and displayed at the Society's Annual General Meeting and Scientific Conference to be held in Tamworth, NSW, during 23 - 28 September 1995.

The competition is open to members and non-members of the Society.

Entries (prints only) cannot be greater than 20 x 25cm, with the name and address of the entrant on the back. Postal entries must be carefully packed and include stamps or a postal order sufficient to cover the cost of return postage, where necessary.

Categories:
Black-and-White and Colour
* Insects,
* Micrographs
* People in entomology

Entries will be reviewed by a Judging Committee. The Society shall have the right to display selected works in public and to reproduce the photographs, with appropriate acknowledgement, on Society goods which it sells, and in magazines, for a fee.

Entries must be in the hands of the Convenor of the Annual General Meeting by 8 September 1995.

Total funds avaliable for cash prizes will be in the order of $1500.

Each entry is to be accompanied by the following information:
* Name of entrant, *Postal Address,
* Category and title of entry/entries, *Scientific name of insect, where applicable.

Forward the entry/entries and the above information to:
Dr R V Gunning,
Convenor of AES 26th Annual General Meeting
C/o Agricultural Research Centre,
PMB 944,Tamworth NSW 2340

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.

FORM OF NOMINATION FOR MEMBERSHIP

To be returned to:
Mr G. Taylor, A/Secretary of AES, c/o Dept. of Crop Protection
Waite Campus, University of Adelaide, Glen Osmond SA 5064

We the undersigned

Proposer: . . . . . (print name here) . . . . . (signature)

Seconder: . . . . . (print name here) . . . . . (signature)

being financial members of the Society, propose the following for membership of The Australian Entomological Society Inc.:

Title . . Initials . . Given Name . . . . . Family Name . . . . . .

of (Address): . . . . . .

. . . . . .

Tel: . . . . . Fax: . . . . . .

Email: . . . . . Degrees, etc: . . . . . .

Occupation or Appointment: . . . . . .

Interests, experience, and publications in entomology for publication in the News Bulletin *Myrmecia* (please attach brief resumé):

I accept nomination and undertake if elected to abide by the rules of the Society, and to pay annual subscriptions by the date prescribed.

Signature: . . . . . **Date:** . . . . . .

For **1995**, new student/retired members - $22.50; new full members - $45.00. **Payment with nomination required.**

. . . . . .

(EXECUTIVE USE ONLY)

Nom. received: . . . . . Nom. considered at meeting: . . . . . .

Payment received: . . . . . Elected at meeting: . . . . . .

Membership type: . . . . . Applicant advised: . . . . . .

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